

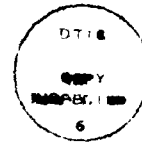
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Fire Support: 1995 and Beyond

An Individual Study Project

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5 April 1991

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Abstract

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Tremendous changes in the threat and world politics in the early 1990s dictate that issues surrounding our Fire Support systems and structure be critically examined to ensure they can continue to meet our worldwide contingencies. This study will examine the current application of Fire Support within the U.S. Army and recommend doctrinal and structural issues needing resolution to facilitate successful future evolution. Modern technology, geopolitical conditions, and evolving doctrine of AirLand Battle-Future indicate broadening roles and changing emphasis for Fire Support. At the same time, our Army will undergo substantial reductions in size and funds. The proper reshaping of our Fire Support capabilities--while maintaining their viability, expandability, and lethality--is the Field Artillery's greatest challenge.

CHAPTER I

Introduction to National Strategy and Military Power

President Bush has endorsed a five year military reduction plan. He stipulated that the forces must remain adequate to respond rapidly and maintain "readiness to rebuild" in case a larger force is needed.*1

This plan requires the Army to reduce active components significantly by the end of fiscal year 1995. As of this writing, Desert Shield/Storm is complicating this incremental downsizing because of the stop-loss program. Thus foreign service tours have been extended and reduction programs have been placed on hold. Unless Congress grants an extension or relief from mandated end strength by FY 1995, the Army's basic strategy of linking force structure reductions with manpower reductions will require both qualitative and quantitative manpower cuts. Marginal soldiers will be released; but also fully qualified, mid-career officers and noncommissioned officers will be separated.*2 Without doubt, Fire Support manpower will be reduced. To achieve the mandated Fire Support reductions properly it is mandatory to have a comprehensive understanding of the relationship between national power and military capabilities.

Broad goals have always directed our national defense policies. The protection of our nation and our way of life, advancement of freedom, democracy and peace have been consistent national goals throughout our history. Such interests shape our defense policies and its structure. Consistent with our role as a

world leader, we have a responsibility to the community of nations, a commitment to free and open economic systems of trade and an obligation to global well-being. Since World War II, our energies and attention militarily have been mainly directed against containment of communist expansion. However, as the bonds between the Soviet Union and its Warsaw Pact partners now begin to unravel, we must prepare appropriate responses to new and different challenges. But we must also ensure the preservation of our national interests, objectives and way of life. In summary, our national interests and objectives are:

The survival of the United States as a free and independent nation, with its fundamental values intact and its institutions and people secure.

A healthy and growing U.S. economy to ensure opportunity for individual prosperity and a resource base for national endeavors at home and abroad.

A stable and secure world, fostering political freedom, human rights, and democratic institutions.

Healthy, cooperative and politically vigorous relations with allies and friendly nations.*3

Trends in the world of the 1990's pose many uncertainties and opportunities. The most important strategic developments are:

- Systemic changes throughout the Communist world
- Trade disputes and shifts in economic power
- Technological innovations and global markets which increase world economic competitiveness
- Erosion of U.S.-Soviet bi-polarity and its stabilizing effects, leading to possible proliferation of regional wars
- Modern weaponry with its greater precision, range and lethality, which may extend wars across a wider geographic area and increase their tempo

- International traffic in illicit drugs, which pose a global threat to world security
- Resettlement of millions of refugees created by war and natural disasters.*4

To continue to be able to achieve our national interest and cope with the dynamic changes of the 1990's, all elements of national power--diplomatic, political, economic, and military--must remain formidable. Our military will still provide an essential underpinning for the global balance, but it will probably be deployed less prominently and in different ways. The most likely demands for the use of our military forces may not continue to serve the grand obsolete strategy of containment of the Soviet Union; rather, our military is more likely to be employed in the Third World, where new capabilities and approaches may be required.*5

However, we must recognize and continue to utilize vital components of our current strategy. These components will help stabilize the 1990's as we transition and reshape our military into its future emergent configuration. We must thus remain fully committed to the following strategic concepts:

Deterrence: Throughout the postwar period we have deterred aggression and coercion against the United States and its allies by persuading potential adversaries that the cost of aggression, either nuclear or conventional, would exceed any possible gain. "Flexible response" demands that we preserve options for direct defense, the threat of escalation, and the threat of retaliation.

Strong Alliances: Shared values and common security interests form the basis of our system of collective security. Collective defense arrangements allow us to combine our economic and military strength, thus lessening the burden on any one country.

Forward Defense: In the postwar era, the defense of these shared values and common interests has required the forward presence of significant American military forces in Europe, Asia and the Pacific, as well as at sea. These forces provide the capability, with our allies, for early, direct defense against aggression and serve as a visible reminder of our commitment to the common effort.

Force Projection: Because we have global security interests, we have maintained ready forces in the United States and the means to move them to reinforce our units forward deployed or to project power into areas where we have no permanent presence. For the threat of protracted conflict we have relied on the potential to mobilize the manpower and industrial resources of the country.*6

The coherent combination of these elements has buttressed our defense policy and military strategy of the postwar era. But, as the trends, uncertainties, and fluxuations of other countries' economic, political and military power evolve, so must our future military forces adapt. However, the Army's basic role will not change.

The Army's role can be summarized by noting its current contributions to our country's well being:

Political Purpose: Since war is primarily a politically directed act for political ends, the conduct of war, in terms of strategy and constraints, is defined primarily by its political objectives and national interests.

Military Goal: Since military forces are political instruments, the military goal must be to further political purpose. Such requirements and limitations as are inherent or implied in political purposes must also be reflected in military missions and tasks.

Scope: The scope and intensity of warfare are therefore defined and limited by political purposes and military goals. The interactions of military operations, political judgments and national will further define the objectives in a conflict and determine its duration and the conditions for its termination.

Landpower: The Army is the nation's primary landpower force. However, under the conditions of modern war,

control of seas and airspace is vital to winning land battles. The Army must have the capability to operate in a combined force and across the spectrum of conflict.*7

To achieve success in its roles and on the battlefield, the U.S. Army has derived a group of principles over the past 200 years of history which essentially define the art of war. Therefore, adherence to these principles in the future is still essential to maintenance of an effective Army. The principles of war are:

Objective: Direct every military operation towards a clearly defined, decisive, and attainable objective.

Offensive: Seize, retain and exploit the initiative.

Mass: Concentrate combat power at the decisive place and time.

Economy of Force: Allocate minimum essential combat power to secondary efforts.

Maneuver: Place the enemy in a position of disadvantage through the flexible application of combat power.

Unity of Command: For every objective, ensure unity of effort under one responsible commander.

Security: Never permit the enemy to acquire an unexpected advantage.

Surprise: Strike the enemy at a time or place or in a manner for which he is unprepared.

Simplicity: Prepare clear, uncomplicated plans and clear, concise orders to ensure thorough understanding and proper execution.*8

This short review of how our National Strategy and military power are interwoven indicate that certain basic elements, components and principles must be adhered to and retained if our country and the Army are to remain vital. Adhering to these solid, valid basic strategic principles as we undertake a major reshaping

of our military force and to determine the merging structure and role of Fire Support will be a complex matter. Our new force structure must be carefully orchestrated, conducted in accord with the aforementioned tried and true principles and concepts.

CHAPTER II

Prepared National Strategy: Guidelines for Downsizing

Our leaders have determined that we will reduce our military expenditures and forces. Whether or not we agree with this decision isn't the issue. We would waste time revisiting that debate. However, we must understand that the need for a reduced budget at home, changing military capabilities and attitudes of other nations, and new political opportunities presented by the end of the "Cold War" have been major factors contributing to the decision to reshape our forces. These outside influences will continue to contribute to future decisions on military size, structure, and location. These decisions, in turn, will affect doctrine, training and equipment. The type of doctrine, intensity of training, and modernization and availability of equipment will affect our military's ability to win and thus to protect our country, national interests and objectives. Our military power must be sufficient for security, but not so costly that it overwhelms the economy; likewise, it must conform politically and ideologically with our national interests. This security must be achieved through a precarious balance among the three pillars of national power: military, economic and political strength. Throughout our history, we can cite situations where either political, economic, or military elements prevailed at a critical period to foster our country's best interests. Thus a perpetual

struggle exists between the elements of national power. Acceptance of such tensions allows for national growth and dynamicism.

Senator Nunn (D-Georgia), Chairman of the Armed Services Committee, recently presented the Senate with updates on the current world situation: He outlined a future national strategy called "Measured Cooperation." I feel strongly that the major elements of this new grand strategy of "Measured Cooperation," with only a few additions and deletions, will replace our current national strategy of "Containment." This new national strategy will inevitably require our military services to change their strategies. Thus understanding this new national strategy will enable our military planners to better design our Army of the future to meet our nation's goals.*9

Through Senator Nunn's words, we can begin to comprehend the emerging strategy of "Measured Cooperation." Without doubt, Senator Nunn envisions a downsized U.S. military establishment:

The following are the major changes that I believe should be made in our military strategy in light of the changes in the threat abroad and also in light of the fiscal realities here at home.

The threat has changed significantly over the last year and many of these changes present opportunities for substantial reduction in U.S. military expenditures over the next several years.

The question is whether we reduce military spending pursuant to a sensible military strategy that meets the threats of today and tomorrow.

At the outset, I think it is important to distinguish between national security strategy, which is very broad, and military strategy, which is a narrow component of national security strategy. National security strategy is designed to protect and preserve broad and enduring national interests and goals. It seeks to meld a wide array of means to achieve these ends, including political, diplomatic, arms-control, economic, as well as military instruments of policy.

Military strategy, on the other hand, is a narrower component of national security strategy and describes how we structure our military forces, based on the threat and available resources, in support of our broad interests and goals.*10

Senator Nunn has based his position on the Bush National Security Strategy. He then specifies military missions of the future. With focus on both recent changes in the world and future defense budgets, he suggested the following key military missions which we should expect our military forces to accomplish:

- Deter any attack on the American homeland.

- Deter the use of nuclear weapons by the Soviet Union or any other nuclear-armed adversary against our homeland, against our allies, or against our military forces deployed in any region of the world.

- Join with our allies to deter Soviet conventional aggression in Europe--at all levels of forces as the threat decreases, and with the capability to rebuild to higher levels in time, should the Soviets attempt to reestablish a credible invasion threat.

- Help defend our friends and allies in Korea, the Far East and Pacific, the Middle East, Southwest Asia, and Latin American with United States military capabilities tailored to complement--but not substitute for or duplicate--the capabilities of our allies.

- Be prepared to conduct forcible entry in small- or medium-scale contingencies.

- Ensure that the sea lines of communications remain open.

- Counter drug trafficking, terrorism, and other unconventional military threats.

- Provide accurate, timely and responsive intelligence in conjunction with other elements of the intelligence community concerning changes in the global threat environment.*11

Senator Nunn then suggested five essential means to carry out these missions effectively in implementation of a new military strategy. Each of these means is formulated to be carried out through some kind of force reduction:

--First, although nuclear deterrence will provide the critical underpinning of our military strategy for now and the foreseeable future, it should be achievable at significantly lower levels of weaponry and with a much higher degree of stability; and by "stability" I mean reduced incentives for either side to strike first with strategic nuclear weapons in any situation.

--Second, our forward deployed forces, or overseas forces, should be reduced consistent with the changes in the threat while placing much greater emphasis on increased specialization among allied nations and much greater reliance on reinforcement with deployable U. S. combat forces to support our allies.

--Third, more of our forces should be put in the reserves, specifically structured for a reinforcement mission.

--Fourth, we should employ a concept of what I call flexible readiness, by which I mean, high readiness for certain forces and adjustable readiness for other forces.

--Fifth, our defense management and resource strategy should be guided by the phrase suggested by former ambassador David Abshire: "think smarter, not richer." Under this approach, I would include greater emphasis on flying before buying; reduced cost of procuring and maintaining weapons, including improving existing platforms and reducing new starts; innovative research to preserve our technological superiority; and preserving a viable defense industrial base.*12

In conclusion, Senator Nunn anticipates that our new national strategy of measured cooperation will contribute to a new world order:

I hope that developments within the U.S.S.R. and other communist regimes will allow measured cooperation to supersede containment on a broad scale. We must give more attention to fostering a cooperative world order and

to managing potential risks before they escalate into direct threats.

If we are able to move from containment toward measured cooperation, we will need to adjust further our military strategy so that it properly reflects a changing national security strategy. We therefore will need to keep both our national security strategy and our military strategy under continuous and careful review. It has to be a dynamic process. It has to take into account changes as they occur.*13

No matter what its final design, our new national strategy will definitely require military leaders to reshape our army. Thus all branches and elements of the Army will undergo severe scrutiny to ensure that our future structure will be able to meet our country's requirements and challenges.

CHAPTER III

Imperatives, Characteristics, and Numbers

General Carl E. Vuono, Chief of Staff, U.S. Army, has promulgated six fundamental imperatives to ensure that the Army makes a successful transition into the 1990s. He cautions that historically we have often readily downsized forces before developing sufficient political agreements to secure a lasting peace. Further he points out that those who argue that economics has replaced military force as the dominant instrument of national power should remember Iraq overcame Kuwait with a formidable military force, thereby precipitating an intense international crisis and a limited war.*14

General Vuono's imperatives set forth the overall principles that will guide the Army through its reshaping period:

--First, we must have a relevant, evolving war-fighting doctrine.

--Second, we will maintain an appropriate mix of armored, light and special operations forces, and the right combination of forward-deployed, reinforcing and contingency forces.

--Third, we must continue to conduct tough, realistic and demanding training that replicates the fog and friction of war.

--Fourth, we must continue to modernize our Army.

--Fifth, we must continue to develop competent, confident leaders.

--Sixth, we must maintain the highest quality force possible, an Army of soldiers and leaders whose ability and competence provide us the foundation to realize the other imperatives.*15

Adherence to the six Vuono imperatives will enable our Army to fulfill its national mission by maintaining its vitally important fundamental characteristics of versatility, deployability and lethality. General Vuono emphasizes that these three key characteristics will ensure our Army's ability to meet future global threats militarily.

Versatility provides the ability to meet an expanding range of challenges around the world. To maintain it, we have to ensure that the proper proportions of active and reserve forces are available. We must be totally committed to a quality one-Army force. Our reduced forward-deployed forces abroad must be backed by trained and ready forces in the United States. This contingency force should be a mixture of armored, light and SOF units; they should be capable of easy tailoring into appropriate force packages. Even this combination of forward deployed and contingency forces may not be large enough for certain types of threats. Therefore, our Army Reserve force must be able to expand quickly and deploy rapidly. They must be equipped as well as and trained to the same standards as the forces they will reinforce.

Deployability provides the ability to apply military force quickly anywhere it is deemed necessary. Enhanced deployability will require changes in the areas of airlift, sealift, force packaging, basing options, equipment design. Both floating and land-based equipment must be pre-positioned strategically to maximize deployability.

Lethality provides the military capability to close with and destroy an adversary's fighting capability swiftly and surely. Sufficient lethality serves to deter any open aggression by would-be adversaries. This goal of lethality can be achieved by modernization programs and combat readiness.*16

In summary, our leaders' plans for the Army's new smaller force structure responds to the Army Chief of Staff's six imperatives, which are designed to produce the vital characteristics of versatility, deployability, and lethality. Thus the Army will maintain a ready force fully prepared and capable of executing its strategic responsibilities worldwide.

This force will be trim, and it will not enjoy lavish budgets. Secretary of Defense Richard Cheney and Chairman Joint Chief of Staff General Colen Powell presented to President Bush a new organizational framework for the military in late June 1990. The plan cuts the armed forces by 500,000 from a current level of 2.1 million. Under this plan four forces would constitute our new military organization:

- The Atlantic Force, which would defend against a Soviet attack on Western Europe and any threats in the Persian Gulf region. It would include active and reserve units of the Air Force, Army, and Marine Corps and six aircraft carriers.

- The Pacific Force, which would rely heavily on tactical air and naval forces to defend Japan, South Korea, and other Asian allies. It would include three or four tactical fighter wings, an Army division, four Marine expeditionary brigades, and six aircraft carriers.

- The Contingency Force, which would respond quickly to Third World conflicts and counter terrorism. It would spearhead any major U.S. intervention. It would consist

chiefly of light Army forces that could be airlifted, seven fighter wings, and special operations forces.

--The Strategic Force, which would provide nuclear deterrence through the nation's long-range nuclear weapons.*17

Although the exact reduction of organizational resources by type of service has not been determined, it can reasonably be assumed that all will be reduced. Future size determination will undoubtedly be based on future doctrinal roles.

CHAPTER IV

Army Doctrine, Fire Support, and the Future

AirLand Battle sets forth the doctrine that prescribes the U.S. Army's current means of generating and applying combat power. The nine principles of war discussed in Chapter One provide the foundation of AirLand Battle.

The fundamental tenets of AirLand Battle doctrine (initiative, agility, depth and synchronization) specify the characteristics of successful operations. They have provided the basis for the development of all current U.S. Army doctrine; likewise, all combat, combat support, and combat service support doctrine is derived directly from and must reflect these fundamental tenets.*18

The following ten AirLand Battle imperatives provide more specific guidance than the principles of war and the aforementioned tenets:

- Ensure unity of effort.
- Anticipate events on the battlefield.
- Concentrate combat power against enemy vulnerabilities.
- Designate, sustain, and shift the main effort.
- Press the fight.
- Move fast, strike hard, and finish rapidly.
- Use terrain, weather, deception, and OPSEC.
- Conserve strength for decisive action.
- Combine arms and sister services to complement and reinforce.

--Understand the effects of battle on soldiers, units, and leaders.*19

General Vuono carefully distinguishes AirLand Battle-Future doctrine from the current AirLand Battle doctrine. He anticipates increased flexibility:

In FM 100-5 AirLand Battle (ALB) doctrine describes both linear and nonlinear operations. Over time the doctrinal applications have principally focused on and been influenced by NATO political and/or alliance guidelines, which have produced a linear mind set, especially at the operational level. AirLand Battle-Future (ALB-F) emphasizes trends and conditions that facilitate the conduct of nonlinear operations. At the same time, the requirement to conduct linear warfare when the situation dictates remains unchanged. There may be times, for example, when a commander may have to conduct linear operations and/or orient on terrain for political reasons. Or he may be directed to stop an enemy's main thrust so that the next higher commander can conduct nonlinear operations. A corps organized for the challenges and opportunities of nonlinear warfare will be able to fight and support either a nonlinear battle or a linear battle, whereas a corps organized principally for linear warfare will have much more difficulty fighting a nonlinear battle. Although the evolving threat and a dynamic, geopolitical context appear to be pushing the battlefield toward nonlinearity, flexibility is key: A given situation may require one mode of operations, based on mission, enemy, time, terrain, and troops available (METT-T). An important, subtle difference thus distinguishes ALB and ALB-F. Current ALB doctrine envisions linear warfare that becomes nonlinear when opposing forces are intermingled. ALB-F envisions forces employed initially in a nonlinear configuration.*20

Without a doubt this subtle difference will have a major impact on all facets of our future forces--particularly on Fire Support.

Fire Support is the synchronized use of indirect-fire weapons, armed aircraft (fixed wing and rotary), and other lethal and nonlethal means in support of the maneuver commander's battle plan. A three-part system produces Fire Support:

--Fire Support command control, and coordination (C3) facilities and personnel;

--Target acquisition and battlefield surveillance;

--Fire Support resources (equipment, personnel, etc.)*21

To be effective, a Fire Support system must function as a cohesive unified force. Fire Support planning and coordination (orchestration) is the operational linchpin of the Fire Support system. The orchestrator of the Fire Support plan is called the Fire Support coordinator (FSCoord). The responsible driving force of Fire Support, the FSCoord must adhere to three principles:

--The Fire Support system must operate as one force (centralized planning decentralized execution).

--The system must respond promptly to the needs of the force commander. It must support his battle plans.

--The Fire Support system should be directed by the field artillery commander.*22

Joint application of fire power and maneuver enables us to destroy higher enemy forces. Maneuver forces must be capable of rapid movement, of dispersing and changing direction, and of quickly massing to win on the future battlefield. Fire Support flexibility is essential for carrying out these rapid movements by maneuver forces.

Any future Army doctrine should evolve from ALB; we should not seek radical, new doctrine. ALB tenets and imperatives--based on principles of war--still provide a sound basis for our military. However, the emphasis is shifting from a predominantly NATO force (European focus) to a globally deployable multi-missioned force.

To carry out Senator Nunn's strategy this future force will require our Army to conduct the following six types of operations:

Joint/Combined Operations: The effective use of cooperation between military forces and civilian agencies for protection of the United States and in other allied nations.

Contingency Operations: Crisis situations often with complex political ramifications, involving imminent or actual military conflict at low to mid-range intensity.

Forward Presence/Reinforcing Operations: Other nations' attempts to gain an advantage in Korea and NATO against intended smaller force structures could spark the requirement for reinforcing operations.

Unique Mission/Nation Assistance Operations: Counterterrorism, counternarcotics, disaster aid, civil disturbances, and peacekeeping operations will require specially designed force for this national mission.

Nuclear and Space Operations: Strategic forces and assets must be incorporated more fully to ensure the capabilities to fight a "Big War" and to gain timely strategic intelligence information.*23

The nature of the battlefield has changed little since the beginning of time. The commander must detect the enemy, mass his force, maneuver for an advantage, fight the enemy, recover, and begin the cycle again if the enemy is still viable. But the technology used to accomplish these basic activities of battle has changed tremendously. ALB-F doctrine envisions four stages of future operations, during which fire support plays varying, often critical roles:

AirLand Battle-Future operating across the operational continuum (low, mid, and high-intensity conflicts) is also categorized into four distinct stages. The first stage, the detection-preparation stage, is really a continuous process. The commander does a detailed intelligence preparation of the battlefield and directs the efficient use of sensors and reconnaissance forces to locate and verify enemy formations, targets and activities. The commander provides for the security of

his force. In mid to high-intensity, this could involve dispersion. Most important, this is the stage in which the operational commander decides on a course of action.

The second stage establishes the conditions for decisive operations. The commander must gain and maintain the initiative from this point on and begin to establish those conditions necessary for his decisive operations. In mid- to high-intensity conflict, it could be the concentration of long-range fires from tactical air, MLRS, and attack helicopters to reduce the enemy's numbers, separate him in time and space and set the conditions for maneuver by tactical units. In low-intensity conflict, this could involve the training and development of friendly forces, the opening of economic opportunities or elimination of the causes of the insurgency.

The third stage is the decisive operations stage. The commander engages with maneuver forces supported by fires at a time and place and under the conditions of his choosing to have the decisive effect. The focus must remain on the operational task; therefore, subordinate commanders must clearly understand the higher level commander's intent and avoid being bogged down in nonproductive tactical battles. In low-intensity conflict, this could be a national election with the population protected by its military, the insurgents discredited and the government gaining legitimate status.

The fourth and final stage is reconstitution. Units disperse and reconstitute either forward or to the rear and prepare for future operations and the beginning of the cycle again. Security of the force again becomes important.*24

The ability of the systems used now and in the future and the speed with which their stages are accomplished (the technological edge) most often will decide the winner. For our forces to continue to have this advantage in the future, we must exploit to the fullest certain strategic imperatives. Not to move forward is to stand still. The military that stands still today will become a second-class military tomorrow. What we once considered a Third World Army presently can buy the latest technology through many markets and become a major threat almost overnight. We do not control, nor should we, the vast numbers of technological advances

in the world. However, we must have an appreciation of other nations' abilities to buy technology. Thus we must acknowledge the effects of loss of our technological edge. In meeting the challenges of the future, our Army has many requirements:

Intelligence: acquisition, assimilation, and dispersing of accurate and timely information;

Command and Control: ability to plan, synchronize, and survive;

Tailorable Forces: ready combat forces--versatile, competent, well-equipped with lethal weapons;

Deployability: capability to operate jointly with air/sea assets to rapidly deploy world wide;

Fires: a ready, full supply of weaponry that is lethal directly and indirectly, that operates close in and deep, in sufficient numbers;

Manpower: sufficient numbers of highly trained and disciplined individuals;

Equipment: war-making machinery that is deployable, survivable, highly mobile.*25

Our Fire Support system of the future must enable our military to complement and support all of these requirements. It must operate in accord with our doctrine, delivering support effectively in all types of battles. It must be deployed, trained, and led in accord with the tried and true principles of war set forth in Chapter One. We must acknowledge and understand that technological advantages are fleeting at best. Thus our military must constantly adjust, reassess, and adapt to new challenges and scenarios if it is to remain capable of protecting our national interests and objectives.

CHAPTER V

AirLand Battle-Future Implications for Fire Support

As we are progressively downsized and weaned from reliance upon our larger force and its nuclear arsenal, we will need a credible conventional deterrence. This comes at a time when budget reductions prevail and the costs of high-technology weapons systems spiral upward. The Army's doctrine (ALB) must also evolve in order to remain cogent.

AirLand Battle doctrine has exerted a profound impact on the evolution of Fire Support requirements. AirLand Battle-Future will likewise have a major impact on Fire Support. It provides what will eventually be the doctrinal basis for improving our ability to condition and shape the battlefield with Fire Support.*26

ALB-F doctrine specifies certain key points:

- AirLand Battle is an evolutionary concept which projects ALB into the next century.
- the Army is in transition from a forward-defense focus to force projection and deployability.
- There will be increased integration of joint and combined operations.
- We must better understand the nonlinear battlefield and enabling concepts (joint, combined, force, projection, command combat, and sustainment).
- Technology for sensors, weapons, and C2 allows us to capitalize on nonlinear conditions.
- AirLand Battle doctrine can be evaluated to meet future global environments and may have to be expanded to include new combat and noncombat missions (e.g., nation assistance and support to other government agencies).

- Forward Presence forces must be tailored to mission and region and must also retain utility for external contingencies.
- All units must be rapidly tailorable to allow creation of appropriate and deployable forces capable of seizing and maintaining the initiative to control the battlefield.
- Logistics support must "push" needed supplies to unit locations on a mission basis.*27

To achieve the fundamental characteristics of a versatile, deployable, and lethal force on the nonlinear battlefield of ALB-F, we must anticipate the following changes:

Doctrine Implications: The principles of war and tenets of ALB will continue to provide the foundations of our Army's doctrine.

- Expand doctrine to cover entire operational continuum.
- Describe the projection of land power through contingency operations to develop and undevelop theaters around the world.
- Emphasize nonlinear maneuver warfare as an extension of the linear battlefield.
- Incorporate a strong command philosophy based on vision, initiative, freedom of action, and responsibility.
- Refine operational art and campaign planning.
- Anticipate and plan how the Army will operate as part of a joint and/or combined force.
- Complete the integration of heavy, light, and SOF.
- Rewrite FM 100-5 as the basis for evaluation.

Training Implications: Principles in FM25-100 remain valid while specific tactics, techniques, and procedures evolve.

- Increase joint and combined simulation supported exercises for units and higher staffs responsible for operational command.
- Accustom our leaders and staffs to operation based more on intent and initiative and less on the structured linear battlefield.
- Expand value of CTC's and BSTP.

Material Implications: The material requirements to support the concept are not revolutionary; they in fact have in large part been provided through existing priorities. The principal needs are:

- Emphasize long-range intelligence and accurate long range fires for the operational commander.
- RISTA fused, early, at depth and quickly disseminated.
- Improve C2 for synchronization.

- Advanced precision attack systems for both operational and tactical force levels.
- Increased tactical agility and versatility.
- Enhanced deployability without sacrificing lethality.
- Robust close-combat capability which can maneuver over long distances and rapidly destroy enemy forces.
- Achieve crew survivability by blending technologies of lethality, armor, and directed energy/electronic countermeasures.
- Imbedded technologies which reduce logistical and training burdens.

Leader Development Implications: The current leader development process remains valid. There should be increased recognition that:

- Operational assignments, institutional training, and self-development must evolve with doctrine and technology.
- Nonlinear battle will stress leaders more than structured battle.

Force Design Implications:

- Systems not required all the time should be retained at high levels.
- Support higher to lower; rear to front.
- Provide support to fighting commander.
- Fighting commanders control fight.
- Simplify command and leadership at lower echelons.
- Increase leader-to-led ratio.
- Organize around a single system.
- CSS organized to monitor the fight; predict requirements.
- Logistics task-organized for battle.
- Delinear CSS where needed.
- High surge, survivable logistics systems.
- Corps commander decides how to fight the enemy.
- Strong recon/cavalry at each echelon provides hedges against decystron/sensor failure.
- Task organize maneuver and combat support for fight.
- Use long range fires to set conditions of battle.
- Corps are tailorable.
- Brigades are combined arms teams.
- Divisions are tactical echelons.
- More agile, mobile forces.
- Robust surveillance/target acquisitions/fusion.
- Flexible, long-range communications.
- Increased fires.
- Increased security forces.

These design implications for our Army of the future indicate the following organizational changes:

- smaller battalions organized around single systems;

- combined arms brigades;
- tactical division headquarters;
- logistical support is a "push" system (corps to BS to CO) combined 20/30 level maintenance;
- the critical fighting commanders are at division and battalion/company;
- corps and brigade commanders support the fight and integrate systems;
- intelligence and surveillance focused at corps;
- deep battle is corps fight (retains long range fires and target acquisition);
- below corps, artillery is used primarily in Direct Support (DS);
- requirement for increased recon/cavalry capability at corps;
- C3 must support a mobile battle;
- Predictive and responsive CSS; sustainment in motion.*28

Fire Support doctrine is also evolving to keep abreast with the development of AirLand Battle-Future. Although the broad principles of Fire Support will not change, specific requirements will necessitate rethinking of tactics, techniques, and procedures, along with the development of training methods, organizations and new equipment.*29

The Fire Support community has already started to conceptualize these changes in a mission-oriented format called Operation Fire Strike. This operational mission will help establish the maneuver commander's required conditions for the initiation of decisive maneuver operations into the corps campaign. To ensure success of Fire Strike as part of the doctrinal change for Fire Support within AirLand Battle-Future doctrine several challenges are foreseen. To meet those challenges the Fire Support community must approach the task with imagination, initiative and an implicit understanding of integration of the combined-arms term.*30

General John W. Foss outlined many ALB-F areas which require the Field Artillery/Fire Support community's attention in his briefing "Challenges for the Field Artillery," 26 April 1990 at Fort Sill, Oklahoma. The doctrinal issues and equipment fixes he recommended for Fire Support of 1995s and beyond were:

Operational Issues:

- Increased role of Corps Artillery;
- Increased role of Field Artillery (FA) Brigade;
- Increasing importance of long range fires, suppression of enemy air defense (SEAD), and widening the counterfire battle.

Combat Training Center Issues:

- Synchronization of the battle and Fire Support planning;
- Massing all available fires;
- Timely fires and Fire Support execution by improving control of the length of target lists; designation of a "shooter" for key targets; maneuver of Fire Support assets to ensure continuous fires on the enemy; continual update of the target list continually; synchronization of direct and indirect fires;
- Training on the basics, emphasis of fundamentals and standards.

Force-Structure Issues:

- The right mix of cannons and multiple launch rocket systems (MLRS), considering precision, ammunition versatility, dispersion, and mobility;
- Location of target acquisition assets.

Short-term Equipment Focus:

- Howitzer Improvement Program (HIP);
- Lightweight 155 mm Howitzer;
- Army Tactical Missile System (Army TACMS);
- Advanced Field Artillery Tactical Data System (AFATCS) with netted, stand-alone work stations and Army Tactical Command and Control System (ATCCS) common hardware;
- A deployable, long-range lethal system;
- Equipment based on mission requirements; long range fires for more than Follow-on Forces Attack (FOFA); determine the role of nuclear weapons.*31

These issues will certainly undergo refinement as ALB-F evolves and matures. With this vast array of challenges and opportunities for the Fire Support community, the coming years will

be extremely demanding. Our Field Artillery leaders will be taxed to the utmost in this era of limited defense resources.

CHAPTER VI

Future Direction of Fire Support Recommendations

To try to make the Army of the late 1990s and early Twenty-first Century just a smaller version of today's Army would be a mistake.*32 Major General Raphael J. Hallada, chief of Field Artillery and Commanding General of the U.S. Army Field Artillery Center and Fort Sill, Oklahoma, has set a new azimuth for the Fire Support community to follow:

In ALB-F doctrine, we envision four stages of conflict: Detection/Preparation (acquisition), Establish Conditions for Decisive Operations (fires), Decisive Operation (maneuver), and Reconstitution.

The Acquisition Stage consists of locating and tracking the enemy from mobilization throughout the conflict. Our advances in this area allow us to see enemy forces at great distances, locate them precisely, and engage them with fires.

In the Fire Stage, we use long-range fires to attack and destroy the enemy's will to fight before he engages our maneuver forces. The primary players in this stage are the Corps artillery, Army aviation, and the Air Force. The Corps artillery controls the long-range rocket and missile fires and coordinates other assets, such as attack helicopters, Tac Air aircraft, and Naval gunfire.

In the third stage, maneuver means "close combat" and relies on speed, agility and lethality as the main ingredients for success. The primary artillery players during this stage are the division artillery and the reinforcing battalions of corps artillery brigades. Their assets shield our tanks and infantry battalions from hostile indirect and, to a degree, direct fire.

The Reconstitution stage consists of recovery operations. During this stage, consolidation and redistribution of soldiers, ammunition and vital supplies, maintenance of equipment, and planning and preparation for follow-on operations are the primary functions.*33

Major General Hallada further noted that, because of the shifting focus under ALB-F doctrine, several traditional roles of the Field Artillery would change:

Where we used to have three Field Artillery roles in ALB (close support, deep attack and counterfire), because of technological advances we have overcome the need for the separate role of counterfire. ALB-F doctrine stresses that counterfire which supports maneuver is a sort of both close support and long-range fires.

The Corps Artillery is evolving into a unit similar to the Division Artillery. It will now play a major role in the planning, allocation and execution of long-range fires in support of the corps commander and provide much of the Field Artillery assets needed in general support (GS) at the division level. The Corps Artillery commander becomes more of a combat leader under ALB-F. He will now plan, allocate, and control all Fire Support assets, particularly early during the Fire Stage, based on the corp commander's intent.

The Division Artillery commander and staff will ensure proper training of the direct support (DS) battalions; coordinate those measures that add timeliness and precision to massed fires; survey meteorological data and coordination of all elements of Fire Support systems.*34

Major General Hallada also stated that, because of the nature of ALB-F's nonlinear battlefield, we need to shift our new equipment focus with an eye toward more deployable and lethal systems that cost less. Field artillery advances allow for lighter weapons and ammunition, all the while improving our ability to destroy the enemy. Some major systems that currently remain in the budget will help accomplish this structural reshaping of Fire Support:

- A lightweight towed 155mm howitzer;
- High mobility artillery rocket systems (HIMARS);
- Sense and destroy armor munitions (SADARM);
- The M109A6 Paladin;
- Army tactical missile system (Army TACMS);
- Light tactical Fire direction system (LTACFire);
- Advanced Field Artillery tactical data system (AFATDS);
- Tacit Rainbow missile;
- Future armored resupply vehicle-ammunition (FARV-A);
- The advanced Field Artillery system-cannon (AFAS-C).*

Also more than 25 other systems are being developed for the future. Major General Hallada further observed that the Army will get smaller and that the Field Artillery will take reductions in proportion to the rest of the Army. He reminds us that Fire Support for the maneuver force has been and will always remain our number one priority. Our real challenge will be to take our share of the personnel cuts and still maintain a superbly trained force with sustained high morale. Finally, our training must be in the forefront of the allocation of our already limited resources.*36

Besides directing the Fire Support community along a new azimuth, Major General Hallada has appointed a special team (Legal Mix VII) to assist in determining the preferred composition of Field Artillery to meet world-wide requirements for the future. Their final report is due late 1991. Its recommendations should:

- Determine the most effective composition for the total Field Artillery force.
- Determine how Army force reductions should be applied to artillery organizations.
- Determine if the requirements for Field Artillery systems currently under development will remain valid when projected against a postulated 1996 and 2000 threat.
- Determine what new Field Artillery systems will be needed for the future force.
- Determine what requirements will be placed on non-Field Artillery systems (e.g., intelligence, logistics) to support the future Field Artillery force.
- Determine the transitions strategy to field these future systems.*37

The outcome of the Legal Mix VII study will help to ensure that the challenges posed by AirLand Battle-Future doctrine and force reductions can be met while we still retain a viable Field Artillery force capable of accomplishing all of its Fire Support missions.

Beyond the purview of the Legal Mix VII study, we must address two concerns regarding Field Artillery equipment in order to sustain versatility, deployability, and lethality in the future:

Mobility and Survival--To have an agile force that can quickly mass, fight, disperse and survive the light and heavy field artillery, we need a new fire direction center vehicle. The new doctrine of ALB-F postulates a 24-hour operation in an easily march-ordered vehicle that possesses serviceability, speed, and stealth comparable to the units' guns it supports and directs. Non-standard, out-dated, or make-shift shelters will no longer suffice.

Standardization (Pure Fleeting)--During downsizing, equipment from units being deactivated presents an opportunity to upgrade other units. But this is a mixed blessing. If mishandled, it could cause long-term problems. Short-falls should be filled first, but not randomly or haphazardly. For example, consider our current 3/4 ton trailer M101A1 and its in lieu of/replacement M101A2 3/4 ton trailer. These appear on paper to be easily interchangeable. However, hardly any major part of one model fits on the other (e.g., tires, rims, axles, etc.). So if both models are used in one unit, its mechanics must stock two different sets of parts. Such non-standardization leads to waste in parts, money, soldier effort, and morale. The Israelis learned this lesson out of necessity. Standardization by types and model (pure fleeting) in division sets would allow savings in training time (less types of items to maintain), in money (every unit would not stock two

different set of parts when having maybe only one M101A1 and 50 M101A2) and ultimately in fielding new equipment. The division entitled to a model update could be easily, quickly identified.

In conclusion, I have traced the interrelationship of our new evolving National Strategy of Measured Cooperation from the highest political levels down to doctrinal and structural issues for Fire Support of the future. I have pointed out that the time tested strategic concepts of deterrence, strong alliances, forward defense, and force projection remain valid. I have shown the linkage of these strategic concepts to their effects on our overall military structure and to its doctrinal employment concepts. I have demonstrated all interfaces of the economic requirement of downsizing forces to meet the necessity of successful evolvement while maintaining the imperatives of: a relevant war-fighting mix of forces (overall reduction of the number of units but improvement through technology of Fire Support lethality, deployability, versatility, survival, mobility and pure fleeting); realistic training (by continued support of CTC/BSTP and principles in FM 25-100); modernization of structure (via Major General Hallada's timely adjustment of Fire Support modernization programs and future implementation of his directed study team, Legal Mix VII, findings); development of leaders (adherence to support of operational assignments and streamlining the educational system for all levels); maintenance of the highest quality force (by unit flag reductions rather than hallowing out the Army infrasture and finding new ways to maintian a readiness to rebuild). To ensure

that "the Future Belongs to the Field Artillery," we must successfully incorporate these many Fire Support doctrinal challenges and structural changes with all their second and third order effects. We have responded to the strategic imperatives. The azimuth has been set. The painful, detailed process of implementation lies mostly ahead.

ENDNOTES

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5. Ibid., p. 15.
6. Ibid., p. 23.
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32. Foss, p. 37.
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34. Hallada, pp. 1-2.
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36. Hallada, p. 2.
27. Field Artillery Center, Legal Mix VII Study Plan, p. 1.

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